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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,705	09/17/2003	Drow Lionel O'Young	A-71205-1/MSS (469332-23)	6018

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DORSEY & WHITNEY LLP
555 CALIFORNIA STREET, SUITE 1000
SUITE 1000
SAN FRANCISCO, CA 94104

EXAMINER	
LEUNG, JENNIFER A	

ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/665,705	O'YOUNG ET AL.	
	Examiner	Art Unit	
	Jennifer A. Leung	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) *1-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-23* are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 September 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3-22-04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group II, claims 18-23, in the reply filed July 31, 2006 is acknowledged. Claims 1-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: The "Related Applications" on page 1 of the specification should be updated to show that Application No. 10/632,664 has been abandoned, and that Application No. 10/099,227 is now U.S. Patent No. 6,960,697. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kiedik et al. (US 5,198,591).

Regarding claims 18 and 21, Kiedik et al. (Figure; column 7, line 51 to column 8, line 32) discloses an apparatus comprising: a reactor unit **1**; a first stage crystallizer **2**; a dissolution tank **4**; and a second stage crystallizer **5**.

Regarding claim 19, a first mixer/separator unit **3** located upstream of the first stage crystallizer **2** (i.e., upstream with respect to the flow direction of material via units **8**, **9**, and **1**; or with respect to the flow direction of material via elements **7** and **1**).

Regarding claim 20, a solvent recovery unit (i.e., unit **7**; or unit **6**) is coupled to at least one of the reactor unit **1**, dissolution tank **4**, and mixer/separator **3**.

Regarding claim 22, a second mixer/separator unit **6** is located upstream of the second stage crystallizer **5** (i.e., upstream with respect to the flow direction of recycled phenol).

Instant claims 18-22 structurally read on the apparatus of Kiedik et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriya et al. (US 5,368,827) in view of Ligorati et al. (US 3,936,507).

Regarding claim 18, Moriya et al. (FIG. 5; column 17, line 55 to column 19, line 48) discloses an apparatus comprising: a first stage crystallizer (**A-2**); a dissolution tank (**C-2**); and a second stage crystallizer (**A-3**). As shown in the figure, the apparatus further comprises a raw material feed line (**87**) for feeding a raw material solution of BPA dissolved in phenol to the crystallizers. Moriya et al. does not show the apparatus comprising a reactor unit for producing the raw material solution (**87**). Moriya et al., however, discloses that the raw material solution may be produced by a "well known process for the production of bisphenol A", such as the process taught in U.S. Patent No. 3,936,507 to Ligorati et al. (column 1, lines 8-20). In Ligorati et al., the process of producing of a raw material solution of BPA dissolved in phenol is carried out continuously or batchwise in one or more reactors (see column 2, lines 24-53). Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a reactor unit in the apparatus of Moriya et al., because the reactor unit (e.g., of Ligorati et al.) would have been a known and suitable means for producing the supply of raw material solution (**87**), as specifically suggested by Moriya et al.

Regarding claim 19, a first mixer/separator unit **B-1,C-1** (FIG. 5) is located upstream of the first stage crystallizer **A-2**.

Regarding claim 20, a solvent recovery unit **B-2,B-3** is coupled to at least one of the reactor unit, dissolution tank **C-2**, and mixer/separator unit **B-1,C-1**.

Regarding claim 21, the first and second crystallizer stages **A-2,A-3** (FIG. 5) are comprised of one or more crystallizer unit.

Regarding claim 22, a second mixer/separator unit **B-2** (FIG. 5) is located upstream of the second stage crystallizer **A-3**.

Regarding claim 23, one or more processing units **B-3** (FIG. 5) are located downstream of the second stage crystallizer **A-3** for producing recycle streams **E-3**, **F-3**, wherein recycle stream **F-3** is conveyed to the second mixer/separator **B-2**.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the

scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 18-23 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 16, 17, 19-24 and 26-28 of copending Application No. 10/661,169, in view of Moriya et al. (US 5,368,827).

Regarding claim 18, Application No. 10/661,169 claims an apparatus comprising:

a reactor unit (see co-pending claims 16, 22 and 28);

a first stage crystallizer (i.e., a BPA crystallizer stage; see co-pending claims 16, 22 and 28); and

a second stage crystallizer (i.e., one or more crystallizer units; see co-pending claim 21).

Application No. 10/661,169, however, is silent as to claiming a dissolution tank, wherein the dissolution tank is located between the two crystallizer stages.

Moriya et al. teaches the provision of a dissolution tank **Q** between two crystallizer stages **A** and **B** (see FIG. 1; column 6, lines 43-53).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a dissolution tank between the two crystallizer stages in the apparatus of Application No. 10/661,169, because the provision of a dissolution tank allows for the proportion of large sized crystals to be increased, thereby minimizing the amount of impurities adsorbed by the BPA and phenol adduct, as taught by Moriya et al. (see column 7, lines 8-27).

Regarding claim 19, Application No. 10/661,169 further claims a first mixer/separator unit located upstream of the first stage crystallizer (see co-pending claims 16, 17, 22 and 28).

Regarding claim 20, Application No. 10/661,169 further claims a solvent recovery unit

(see co-pending claims 19, 23, 26 and 28).

Regarding claim 21, Application No. 10/661,169 further claims the first and second crystallizer stages being comprised of one or more crystallizer units (see co-pending claim 21).

Regarding claim 22, Application No. 10/661,169 further claims a second mixer/separator unit located upstream of the second stage crystallizer (i.e., a partial phenol removal unit; see co-pending claims 20, 22, 27 and 28).

Regarding claim 23, Application No. 10/661,169 further claims one or more processing units downstream of the second stage crystallizer (see co-pending claims 24).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. It is noted that claims 16, 17, 19-24 and 26-28 of Application Serial No. 10/661,169 were allowed on August 29, 2006, and the issue fee was paid on September 26, 2006. However, the claims have not yet issued as a patent.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer A. Leung
October 4, 2006

ALEXA DOROSHENK NECKEL
PRIMARY EXAMINER